European melanoma web platform

Developing a scoring classifier for early melanoma detection

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Early detection of melanoma, without increasing the number of benign lesions to be excised, is one of the main goals in screening patients for skin cancer. However, differential diagnosis of early melanoma includes a number of atypical (but benign) nevi. With this project, we planned to address a specific clinical problem, namely the improvement of dermatologists' diagnostic accuracy in discriminating between early melanoma (EM) and atypical nevi (AN).

We submitted our proposal to EADV's Project Proposal Review Committee (PPRC) in 2016, and we were very proud to be approved for the project.

The idea inspiring the project is the belief that early melanoma diagnosis is made easier only by combining clinical information and dermoscopic evaluation. We previously developed a scoring classifier including both dermoscopic evaluation and clinical information of the patient.

Our goal

With this project our aim was to create an international dataset of images, coupled with clinical information, and to test the scoring system involving a wide number of colleagues from all over Europe.

The project is progressing successfully with the close collaboration between the University of Campania Luigi Vanvitelli, the University of Siena and the Arcispedale Santa Maria Nuova, IRCCS from Reggio Emilia. Additionally, four centres from other countries in Europe were involved in the project and contributed to the success of the scoring classifier: from Barcelona, Spain; Nis, Serbia; Thessaloniki, Greece; and Saint-Etienne, France.

The first step was the development of a web platform dedicated to "teledermoscopy". The platform is based on secure communication systems, highly optimised to reduce the required bandwidth. With the contribution of all the centres involved we created a library of dermoscopic standardised images and a database of four clinical-anamnestic data with histologic diagnosis, corresponding to each one of the uploaded dermoscopic images.

The web platform also included a testing set area, where all images are available along with four clinical and anamnestic data. Dermatologists from the contributing centres were invited to access the platform and test the scoring classifier. Almost 100 dermoscopists with variable levels of expertise joined the project, with amazing results.

Preliminary results

The final results will be the subject of a dedicated publication. Preliminary results clearly indicate that adding clinical information improves the diagnostic accuracy by 30%, as compared to dermoscopic examination alone (based on classical pattern analysis and 7-point checklist).

Finally, the web platform will be available at the end of the study to all EADV members for further teaching and research activities. ●

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